Use of Frog Vle in Science Learning

by Agus Pahrudin

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Abstract. Frog Virtual Learning Environment (Frog VLE) is one of the supporting learning applications utilizing Information and Communication Technology (ICT) in 21st-century science learning. This paper concept tries to look at various issues in using VLE Frog to carry out science learning activities. Some previous studies were analyzed in depth for this purpose. The results of the analysis show that Frog VLE has not been widely used to support teacher science learning. In fact, the VLE Frog needs to be given a serious support to add to the process of learning science in the future, the teacher must be given continuous and consistent training in the use of the Frog VLE in the process of learning science.

1. Introduction

Teachers are the facilitators who play a role in realizing the learning objectives in school [1] One of the current challenges of learning is related to the effectiveness, quality and suitability of various information technology resources in learning [2]. To address these challenges, teachers need to improve their knowledge, and competence continuously to keep up-to-date with current and future learning needs.

The current educational process occurs in digital zones and differs from previous demands, the use of technology as the backbone of an inevitable [3]. Therefore, these requirements are an urgent adjustment for teachers [4]. He suggested that some of the skills needed by teachers nowadays are critical thinking and problem solving, communication, collaboration, creativity and innovation, information, media and technology skills, initiatives and self-direction, cultural capabilities, productivity and accountability, leadership and responsibility. The skill in using technology to connect with students is one of the inevitable [3].

The use of technology in developing countries is a new [5], and is an important skill for teachers improve teaching and learning [6]. In Europe, these skills are called e-skills related to efficiency, ability to develop, and use technology in the context of the knowledge environment [7]. The importance of technology can be used for the development of various civil and business society activities [8]. Therefore, teachers need to be proficient in using technology to create an effective learning process. [5] Stated that process functions, content, and effective pedagogical knowledge can be done by using technology.

Previous studies have shown that the use of technology in learning is influenced by the attitude of teachers in the use of technology [9-10] found that teachers' attitude was very positive towards the use of

technology in learning, although there were still many challenges in integrating technology into learning in school. The integration of technology into teaching can provide diverse teaching, enabling students to be more autonomous, more cooperative in learning, while information and resources related to the needs and interests of students all contribute to the degree of involvement of students on the use of technology in learning [2] has introduced an e-learning system through a virtual learning environment (VLE) in nearly ten thousand primary and secondary schools The KPM initiative encourages the use of technology to create a more efficient learning environment for teachers, parents, and students [11]. Frog VLE is a web-based system that resembles a real-world education, by integrating conventional education in a virtual environment. In the Frog VLE web, teachers can upload songs, videos, pictures, exercises in Microsoft word, power point, forum and chatroom to interact.

Guidance in developing multimedia-based teaching media that can give maximum impact in the learning process [12]. Teachers need to use Frog VLE maximum based on a guideline based on the pedagogical and theoretical aspects of the application. In addition, Frog VLE in learning has a positive effect, namely (i) positive impact on student achievement in terms of effectiveness as a student, improving learning quality and as a tool in the course, (ii) self-reliance learning, (iii) to learn in terms of feedback on student activities and to encourage collaborative communication and learning through forums, chat and e-mails for discussion (Jenny & Peter, 2013).

The integration of technology in the learning process has a positive impact on the achievement of students [13-14], to enhance the achievement of learning [15]. While the learning process using the Frog VLE platform is an approach to addressing the diversity of learning styles in producing a positive impact on student skills [16]. The advantages of this learning approach still fail to attract teachers to use Frog VLE as the main learning platform in the schoo This paper explores the issues, challenges, and implications of Frog VLE's use of learning activities.

2. Issues And Challenges Of Using Frog Vles In Science Learning

To meet the challenges of education 2013-2025 has outlined the 7th shift in technology utilization to improve the quality of learning in Malaysia [17], one of which is the use of Frog VLE in learning. Among the challenges in the use of Frog VLE is the integration of technology with learning [18-19] and lack of training for teachers in service [20]. From these challenges, schools need to encourage teachers to have the skills in the use of technology in school.

The use of ICT in schools has not reached a high level, either in terms of quality or quantity. Teachers are less likely to use Frog VLE for lack of knowledge and not enough time to prepare learning materials through Frog VLE [21] . [21] state that 2% of the teachers use Frog VLE in learning. The majority of teachers only use VLE as a repository for students to acquire learning materials such as PowerPoint and reading lists [22]. Teachers' awareness of working in the 21st century and the lack of encouragement for teachers from the school to use technology in teaching in the classroom environment is also an issue [4].

Other researchers have also found that the use of technology in private schools, in some cases it is almost nonexistent [23]. In terms of school facilities, it is found that the main factor of teachers lacking using technology in the learning process is related to the number of computers [24]. Most rural schools have problems with the internet, networks, technical support, lack of effective training, limited time and lack of teachers efficiency, so the use of Frog VLE has not been fully achieved [25]. Parents should be more open-minded to provide internet facilities and have a computer at home to improve student performance in technology [26]. However, the issue in fulfilling the needs of students is very much related to parents' income.

Issues that occur outside Malaysia are similar to Malaysian issues, which are related to the weaknesses in using ICT because teachers are limited in knowledge, databases, video conferencing tools, and learning management tools such as blackboards in their teaching practices[18]. In addition, [5] and [19] stated that in general teachers are troubled with self-confidence for using ICT in PDP, teachers are confident with their basic skills but are less confident in handling some technical applications. This is due to several factors, namely (i) restricted access and network connections, (ii) schools with limited technical

support, (iii) lack of effective training, (iv) limited time, and (v) lack of teacher competencies [25]. Teachers in urban areas are believed for ICT usage and ICT access are higher than rural teachers. The [27] found that there was no significant difference in the use of public or private ICT, access to ICT, competence and training support.

From some studies that have stated above, it can be concluded that there are various internal and external factors that barrier to integrating ICT in the form of Frog VLE in school. Some factors that prevent teachers from integrating ICT into school are confidences or competencies towards ICT, access to ICT, training teachers, time, and technical support issues [18,19]. In addition, school principals also play a role. [17] found that there were still gaps in technology integration in schools because of lack of school principal's proficiency in managing human resources and technology in schools.

3. Recommendations And Implications

Frog's VLE learning in school not only supports e-learning activities such as information dissemination, course material handling, and evaluation. Learning Frog VLE can provide rich media environments with various graphics, videos, animations, and sounds [28]. Supported by [29] and [30] studies the Frog VLE can increase the interest of teachers and students, and improve teaching effectiveness, cost savings, and improve traditional learning. According to Thah (2014) through Frog VLE's learning, the teacher can set lessons, tests, and scores. While students can do the homework, see notes and important documents related to learning. Additionally, school administrators can organize their calendar and disseminate notifications via Frog VLE.

From the many issues that have been raised, some of the suggestions that can be shared to supplement the teaching of Frog VLE are (i) teachers need to be practiced using ICT properly in order to get accustomed and to add ICT skills [18]. [10] stated that for the successful implementation of intervention programs, teachers competency need to be carefully considered in the planning and implementation of ICT integration programs. There should be ongoing efforts to address the various issues as previously shown. Teachers are allowed to form self-development groups by involving more competent partners in the field of technology, as well as having professional development programs, and are encouraged to use ICT-based teaching and learning strategies [4].

School administrators need to clear the objective of virtual learning implementation, and the plans for involving all school students and parents need to be developed. Skills upgrading programs need to be set up to ensure that only interested and skilled teachers are active in the implementation, monitoring should be carried out, feedback on implementation should be collected and assessed for improvement purposes, re-evaluate plans based on feedback and improve implementation strategies [25]. Internet access needs to be increased, teacher workloads are reduced and teachers need to change their minds, make early teaching planning and be prepared to attend organized courses related to Frog VLE applications [13].

According to [30] the steps that can be used to maintain and enhance digital-based learning are to know the situation faced by teachers. Thus, schools need to provide the right way to improve teachers' professionalism in technology. In addition, teachers benefit from improving classroom-based learning [30] Frog VLE is very important for educational institutions because it affects the quality of learning. Frog VLE's teaching has so far emphasized the features, components and technical aspects of optimizing the use of Frog VLE in the classroom (Sa'don, Dahlan, & Zainal, 2013). Teachers are at the forefront, so training and support for teachers are an important component of e-learning education. Hence, continuous training is required [31].

4. Conclusion

The mastery and the use of ICT is a symbol of the current era. One of the ICTs is the Frog VLE (Virtual Learning Environment) web-based system, which greatly facilitates the learning process. It is undeniable that technology has become a major supplement in the education world today. Thus, the learning process runs more easily and effectively with the use of IT. Therefore, it should be given special attention to

improving the skills of teachers in facing current challenges and making the education process more meaningful.

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